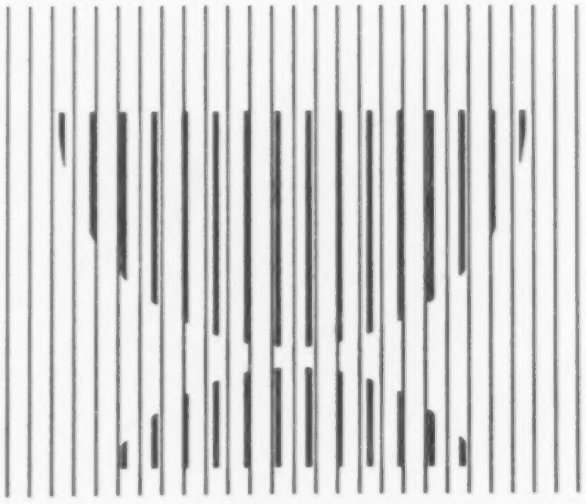
CBO STAFF MEMORANDUM

FUEL SAVINGS FROM ALTERNATIVE PROPOSED STANDARDS FOR CORPORATE AVERAGE FUEL ECONOMY

June 1991



THE CONGRESS OF THE UNITED STATES
CONGRESSIONAL BUDGET OFFICE
SECOND AND D STREETS, S.W.
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This staff memorandum was prepared in response to a request from Senator J. Bennett Johnston, Chairman of the Committee on Energy and Natural Resources, to analyze the fuel savings resulting from higher corporate average fuel economy (CAFE) standards for light-duty vehicles and the effects of CAFE credits for the production of vehicles that use alternative fuels. This Congressional Budget Office analysis focuses on the relative fuel savings from different proposals for higher CAFE standards, but does not consider the effects of alternative fuel credits. Committee staff provided the alternative CAFE standards.

The memorandum was prepared by Richard D. Farmer of CBO's Natural Resources and Commerce Division (NRCD) under the supervision of Roger Hitchner, Unit Chief for Natural Resources, and Elliot Schwartz, Acting Assistant Director for NRCD.

This memorandum presents estimates of the reduction in gasoline demand that would be caused by increases in federal standards for the corporate average fuel economy (CAFE) of new automobiles and light trucks. The Energy Policy and Conservation Act of 1975 first laid out the requirements for CAFE standards. The current standard for the average fuel efficiency of passenger cars is 27.5 miles per gallon (MPG).

Average fuel efficiency is affected by the design of vehicles as well as the mix of different types of vehicles sold. Automakers can raise efficiency by altering some combination of engine design, body design, size, and performance. These changes affect the costs of vehicles as well as the attributes of vehicles that consumers value. Consumers, therefore, may shift to larger and more powerful (and less efficient) models, even as automakers are trying to make all models more fuel efficient.

The effect of higher CAFE standards on total gasoline demand depends on how the average efficiency of the entire fleet of vehicles in service changes and on how the change in efficiency affects vehicle use. Because CAFE standards apply only to the new vehicles sold each year, higher standards could increase the average fuel efficiency of the fleet slowly and over time--as new vehicles come into service and older, less efficient ones go out.[1] An increase in average fuel efficiency reduces the fuel requirements for any given level of travel activity, and thus saves gasoline. At the same time, increased fuel efficiency lowers the cost of driving, so people drive more. This offsets the gasoline savings from increased efficiency by a small amount.

OPTIONS FOR HIGHER CAFE STANDARDS

The analysis estimates fuel savings from different proposed standards (options) under a range of assumptions (scenarios). The proposed standards would raise the minimum required efficiency of new passenger cars in stages--to 37 MPG in 2006 (Option 1), 38.4 MPG in 2006 (Option 2), or 40 MPG in 2001 (Option 3) (see Table 1). The biggest reduction in gasoline demand (or biggest fuel savings) occur with the high CAFE standards in Option 3, and the smallest savings occur with Option 1. Depending on underlying assumptions, the total savings with Option 3 range between 0.75 million barrels per day (bbl/day) and 2.47 million bbl/day in 2020. Estimates of the incremental fuel savings from Option 3 over Option 1 in that year exhibit a narrower range--between 0.38 million bbl/day and 0.62 million bbl/day.

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1. The turnover rate for the fleet, and the improvement in fleet efficiency, could slow if consumers reacted to changes in the design or cost of vehicles by buying fewer new cars. However, vehicle efficiency is probably more important in deciding which car to buy than in the basic decision to buy a car. Unless CAFE standards become very costly, the level of new car sales should not change much.

Three CAFE options were proposed for evaluation by the staff of the Senate Committee on Energy and Natural Resources. The standards for passenger cars in Options 1 and 2 are based on Office of Technology Assessment (OTA) estimates of "maximum technologically feasible" levels for average new-car fleet efficiency.[2] These maximum levels are what OTA suggests may be attainable (although not necessarily economical) by applying currently identified technologies and assuming that consumers will be purchasing a certain the mix of cars (in terms of average size and performance).

TABLE 1. ALTERNATIVE CAFE STANDARDS
(In miles per gallon)

	1990	1996	2001	2006
		Current Standards		
Passenger Cars	27.5	27.5	27.5	27.5
Light Trucks	20.0	20.5	20.5	20.5
		Option 1		
Passenger Cars	n.a.	30.2	34.0	37.0
Light Trucks	n.a.	22.0	24.0	26.6
		Option 2		
Passenger Cars	n.a.	30.2	34.0	38.4
Light Trucks	n.a.	22.0	24.0	26.6
		Option 3		
Passenger Cars	n.a.	34.0	40.0	40.0
Light Trucks	n.a.	25.5	30.0	30.0

SOURCE: Congressional Budget Office.
NOTE: n.a. = not applicable.

The technological feasibility of Option 1 (37 MPG) assumes that the average size and performance of new cars sold in the future remain at 1990 levels. Option 2 (38.4 MPG) assumes the average size and performance reflect 1987 levels, when the fleet was slightly smaller and less powerful (and more fuel efficient) than today. OTA indicates that Option 3 (40 MPG) could be achieved only if automakers were

2. "Estimating Feasible Levels of Corporate Average Fuel Economy," testimony of Steven Plotkin, Office of Technology Assessment, before the Senate Committee on Energy and Natural Resources, March 20, 1991.

granted credits against their CAFE standard for the sale of vehicles using alternative fuels. CBO made no effort to assess the reasonableness of these options.

SCENARIOS: IDENTIFYING THE RANGE OF UNCERTAINTY

The estimated effects of higher CAFE standards on gasoline demand depend on two key assumptions. First, what would happen to the average fuel efficiency of the fleet in the absence of higher standards? Some baseline improvement in efficiency may result from technological improvements unrelated to CAFE standards or from increases in gasoline prices that encourage consumers to buy more efficient vehicles. Therefore, all reductions in gasoline demand might not be attributable to higher CAFE standards.

Second, to what extent would increased vehicle use offset the fuel savings from a more efficient fleet? The greater this rebound effect--expressed as the percentage change in miles traveled associated with an increase of 1 percent in fuel efficiency--the less the effect of increased fuel efficiency on total demand.

Each CAFE option was analyzed under three scenarios--or alternative sets of assumptions about baseline increases in new vehicle efficiency and about the size of the rebound effect. The combinations of assumptions are set so that higher CAFE standards would yield relatively small gasoline savings (Low-CAFE Impact Scenario), relatively large savings (High-CAFE Impact Scenario), or a more likely, moderate level of savings (Base-Case Scenario). These assumptions are as follows:

Scenario	New-Car Efficiency in Absence of Higher Standard	Rebound Effect
Base Case	30.0 MPG	0.1
Low-CAFE Impact	33.0 MPG	0.2
High-CAFE Impact	28.5 MPG	0.0

Fuel savings for each CAFE option represent the difference between the forecast for gasoline demand with a continuation of current standards and the forecast with each respective option. With expected turnover in the vehicle fleet, the ultimate savings from the higher efficiency standards of all three options would be in place by 2020 (see Table 2). In that year, fuel savings in the Base Case range between 1.29 million bbl/day (Option 1) and 1.80 million bbl/day (Option 3) (see Table 2). Savings from these two options range between 0.37 million bbl/day and 0.75 million bbl/day in the Low-CAFE Impact Scenario, and between 1.85 million bbl/day and 2.47 million bbl/day in the High-CAFE Impact Scenario.

TABLE 2. SUMMARY OF MOTOR GASOLINE SAVINGS BY PASSENGER CARS AND LIGHT TRUCKS UNDER ALTERNATIVE SCENARIOS, 1990-2020
(In millions of barrerls per day)

	1990	1996	2001	2006	2010	2015	2020
BASE-CASE SCENARIO							
CAR AND LIGHT TRUCK DEMAND							
CURRENT CAFE (27.5 MPG)	6.13	6.21	6.54	7.03	7.50	8.16	8.70
SAVINGS							
OPTION 1 (37 MPG)	–	0.00	0.14	0.52	0.80	1.09	1.29
OPTION 2 (38.4 MPG)	–	0.00	0.14	0.53	0.85	1.17	1.40
OPTION 3 (40 MPG)	–	0.05	0.32	0.88	1.21	1.56	1.80
LOW-CAFE IMPACT SCENARIO							
CAR AND LIGHT TRUCK DEMAND							
CURRENT CAFE (27.5 MPG)	6.13	6.27	6.52	6.79	7.09	7.49	7.78
SAVINGS							
OPTION 1 (37 MPG)	–	0.00	0.03	0.18	0.28	0.35	0.37
OPTION 2 (38.4 MPG)	–	0.00	0.03	0.19	0.32	0.42	0.45
OPTION 3 (40 MPG)	–	0.04	0.17	0.45	0.59	0.71	0.75
HIGH-CAFE IMPACT SCENARIO							
CAR AND LIGHT TRUCK DEMAND							
CURRENT CAFE (27.5 MPG)	6.13	6.31	6.86	7.45	7.95	8.62	9.17
SAVINGS							
OPTION 1 (37 MPG)	–	0.03	0.27	0.78	1.20	1.60	1.85
OPTION 2 (38.4 MPG)	–	0.03	0.27	0.79	1.26	1.69	1.97
OPTION 3 (40 MPG)	–	0.10	0.69	1.42	1.82	2.21	2.47

SOURCE: Congressional Budget Office.

Estimates of the incremental savings from Option 3 over Option 1 exhibit a narrower range--between 0.38 million bbl/day (Low-CAFE Impact Scenario) and 0.62 million bbl/day (High-CAFE Impact Scenario). Tables A-1 through A-3 contain more detailed results for each option and scenario.

METHODS AND ASSUMPTIONS

All results are based on runs of the Energy Information Administration's PC-Transportation Model, as used to produce EIA's *Annual Energy Outlook 1991* base case forecast.[3] The EIA model simulates the effects of new-car fuel efficiency on the changing composition of the fleets of passenger cars and light trucks.[4] Gasoline prices, vehicle efficiency, and income jointly determine the demand for travel. Fleet efficiency determines the fuel requirements of that travel demand.

The objective of this analysis was to facilitate the comparison of alternative proposed CAFE standards. Accordingly, there was no need to alter basic assumptions of the EIA model that would not be significantly affected by changes in new-car efficiency. Specifically, CBO did not alter the important assumptions of the *Annual Energy Outlook* base case concerning growth in the real price of gasoline (1.7 percent annually), growth in real disposable income (1.7 percent annually), or the relationship between income and vehicle miles traveled (an increase of 1 percent in real income causes an increase of 0.8 percent in miles driven). These price and income forecasts differ from CBO's baseline forecast.

CBO did make several changes to the EIA model:

- Forecasts were extended from 2010 to 2020.
- An explicit variable was created to reflect the effect of higher vehicle efficiency on miles driven (the rebound effect).
- The highest MPG attainable under the incentives of market forces alone was set at the OTA estimate of maximum technologically feasible efficiency (38.4 MPG by 2001). This replaced a higher EIA estimate (40 MPG after 1990), for which there was no empirical basis. (The EIA upper bound on efficiency had the effect of allowing actual new-car efficiency to rise to 37 MPG, well beyond the 33 MPG estimated as economic by OTA under the assumption of gasoline prices higher than those forecast by EIA.)

In constructing scenarios to describe the uncertainty underlying estimates of fuel savings, CBO also altered model assumptions concerning (1) the vehicle efficiency that automakers would supply in response to market forces alone, (2) the rebound effect, and (3) the effect of gasoline prices on miles driven.

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3. Energy Information Administration, *Annual Energy Outlook 1991* (DOE/EIA-0383(91), March 1991).

4. A description of the EIA model is presented in Energy Information Administration, *Assumptions for the Annual Energy Outlook 1990* (DOE/EIA-0527(90), February 1990).

Fuel savings in the Base Case result from assumptions that let the efficiency of new cars rise from the current level of 28.5 MPG to 30 MPG with no further increase in the standards. The 30-MPG level is consistent with what the industry would achieve on its own from a purely market-driven perspective, assuming a gasoline price of nearly $1.20 per gallon (in 1990 dollars) by 1995 (based on the Energy Information Administration's *Annual Energy Outlook 1991*). Lower fuel savings (Low-CAFE Impact Scenario) result if the efficiency of new cars rises to 33 MPG in the absence of new standards. The 33-MPG level is consistent with the OTA estimate of what the industry would achieve on its own, assuming gasoline prices at about $1.50 per gallon (in 1990 dollars) by 1995. Higher fuel savings (High-CAFE Impact Scenario) result if efficiency remains at current levels in the absence of new standards.

The rebound effect, measured as the percentage change in miles traveled that results from a change of 1 percent in MPG, was set at 0.1 in the Base Case, 0.2 in the Low-CAFE Impact Scenario, and 0.0 in the High-CAFE Impact Scenario. The Base-Case estimate is based on preliminary work by Oak Ridge National Laboratories[5]; the Low-CAFE Impact Scenario estimate is based on work by the Department of Energy[6]; and the High-CAFE Impact Scenario estimate was selected as a reasonable extreme value.

The effect of gasoline prices on miles traveled (measured as the percentage change in miles traveled that results from a change of 1 percent in price) was set at -0.1 in the Base Case (which is also the EIA estimate), -0.2 in the Low-CAFE Impact Scenario, and 0.0 in the High-CAFE Impact Scenario. These estimates are consistent with the complementarity between efficiency and fuel price in determining the cost of travel.

IMPORTANT CAVEATS

The range of results presented here does not encompass all the uncertainties underlying the estimates. Additional variations in vehicle travel because of variations in income or fuel prices could change the resulting estimates of fuel savings. However, the Committee staff was principally interested in the relative savings from different CAFE options, and there is no reason to believe that prices or income-induced travel would change significantly as a direct result of CAFE standards. Thus, CBO ignored those other factors.

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5. David L. Greene, "Vehicle Use and Fuel Economy: How Big is the Rebound Effect?" (unpublished manuscript, Center for Transportation Analysis, Oak Ridge National Laboratory, Oak Ridge, Tennessee, March 1991).

6. Based on discussions with Carmen Difiglio, Office of Policy, Planning and Analysis, U.S. Department of Energy.

APPENDIX

This appendix contains tables presenting detailed model results for the individual CAFE options and scenarios discussed in the text. A separate table for each scenario compares gasoline prices, vehicle travel, the minimum fuel efficiency required for new vehicles (CAFE), fleet-average fuel efficiency (old and new cars together), and the gasoline demand that results from a continuation of current CAFE standards and from each of the 3 CAFE options:

Table A-1. Base-Case Scenario
Table A-2. Low-CAFE Impact Scenario
Table A-3. High-CAFE Impact Scenario

The key results for gasoline demand by passenger cars and light trucks appear at the bottom of the table panel for each option.

TABLE A-1. BASE-CASE SCENARIO

	1985	1990	1996	2001	2006	2010	2015	2020
CURRENT CAFE STANDARDS								
Motor Gasoline Price (In 1990 dollars per gallon)	1.07	1.16	1.19	1.27	1.43	1.49	1.63	1.79
Car/Light Truck Miles Traveled (Millions)	1506	1723	1878	2067	2218	2336	2485	2588
New-Vehicle CAFE (MPG)								
Passenger Cars	27.50	27.50	27.50	27.50	27.50	27.50	27.50	27.50
Light Trucks	19.50	20.00	20.50	20.50	20.50	20.50	20.50	20.50
Fleet-Average Fuel Efficiency (MPG)	17.09	18.66	19.94	20.67	20.51	20.19	19.66	19.12
Passenger Cars	18.03	20.05	21.91	22.99	22.96	22.67	22.12	21.53
Light Trucks	14.43	15.64	16.44	17.08	17.04	16.85	16.52	16.20
Gasoline Demand (In millions of barrels per day)[a]	6.67	7.10	7.19	7.59	8.17	8.67	9.42	10.03
Passenger Cars	3.63	3.74	3.73	3.91	4.20	4.48	4.88	5.23
Light Trucks	2.27	2.40	2.48	2.63	2.83	3.01	3.27	3.47
OPTION 1 (37 MPG by 2006)								
Motor Gasoline Price (In 1990 dollars per gallon)	1.07	1.16	1.19	1.27	1.43	1.49	1.63	1.79
Car/Light Truck Miles Traveled (Millions)	1506	1723	1878	2078	2261	2402	2574	2693
New-Vehicle CAFE (MPG)								
Passenger Cars	27.50	27.50	30.20	34.00	37.00	37.00	37.00	37.00
Light Trucks	19.50	20.00	22.00	24.00	26.60	26.60	26.60	26.60
Fleet-Average Fuel Efficiency (MPG)	17.09	18.66	19.94	21.24	22.58	23.22	23.46	23.30
Passenger Cars	18.03	20.05	21.91	23.77	25.61	26.44	26.79	26.64
Light Trucks	14.43	15.64	16.44	17.38	18.41	19.02	19.36	19.38
Gasoline Demand (In millions of barrels per day)[a]	6.67	7.10	7.19	7.45	7.64	7.87	8.34	8.78
Passenger Cars	3.63	3.74	3.73	3.80	3.84	3.95	4.18	4.40
Light Trucks	2.27	2.40	2.48	2.60	2.67	2.75	2.89	3.02

(continued)

TABLE A-1. BASE-CASE SCENARIO (continued)

	1985	1990	1996	2001	2006	2010	2015	2020
OPTION 2 (38.4 MPG by 2006)								
Motor Gasoline Price (In 1990 dollars per gallon)	1.07	1.16	1.19	1.27	1.43	1.49	1.63	1.79
Car/Light Truck Miles Traveled (Millions)	1506	1723	1878	2078	2262	2407	2582	2702
New-Vehicle CAFE (MPG)								
Passenger Cars	27.50	27.50	30.20	34.00	38.40	38.40	38.40	38.40
Light Trucks	19.50	20.00	22.00	24.00	26.60	26.60	26.60	26.60
Fleet-Average Fuel Efficiency (MPG)	17.09	18.66	19.94	21.24	22.62	23.43	23.80	23.69
Passenger Cars	18.03	20.05	21.91	23.77	25.70	26.87	27.49	27.48
Light Trucks	14.43	15.64	16.44	17.38	18.41	19.02	19.36	19.38
Gasoline Demand (In millions of barrels per day)[a]	6.67	7.10	7.19	7.45	7.63	7.82	8.27	8.68
Passenger Cars	3.63	3.74	3.73	3.80	3.83	3.89	4.08	4.28
Light Trucks	2.27	2.40	2.48	2.60	2.67	2.75	2.90	3.03
OPTION 3 (40 MPG by 2001)								
Motor Gasoline Price (In 1990 dollars per gallon)	1.07	1.16	1.19	1.27	1.43	1.49	1.63	1.79
Car/Light Truck Miles Traveled (Millions)	1506	1723	1881	2093	2294	2442	2620	2743
New-Vehicle CAFE (MPG)								
Passenger Cars	27.50	27.50	34.00	40.00	40.00	40.00	40.00	40.00
Light Trucks	19.50	20.00	25.50	30.00	30.00	30.00	30.00	30.00
Fleet-Average Fuel Efficiency (MPG)	17.09	18.66	20.11	22.02	24.24	25.18	25.64	25.57
Passenger Cars	18.03	20.05	22.05	24.37	27.01	28.14	28.71	28.67
Light Trucks	14.43	15.64	16.66	18.35	20.26	21.16	21.68	21.78
Gasoline Demand (In millions of barrels per day)[a]	6.67	7.10	7.15	7.26	7.27	7.45	7.86	8.25
Passenger Cars	3.63	3.74	3.71	3.74	3.69	3.77	3.97	4.16
Light Trucks	2.27	2.40	2.46	2.48	2.46	2.51	2.63	2.74

SOURCE: Congressional Budget Office.

a. Total demand includes cars, light trucks, and medium and heavy trucks.

TABLE A-2. LOW-CAFE IMPACT SCENARIO

	1985	1990	1996	2001	2006	2010	2015	2020
CURRENT CAFE STANDARDS								
Motor Gasoline Price (In 1990 dollars per gallon)	1.07	1.16	1.19	1.27	1.43	1.49	1.63	1.79
Car/Light Truck Miles Traveled (Millions)	1506	1723	1896	2104	2258	2381	2521	2609
New-Vehicle CAFE (MPG)								
Passenger Cars	27.50	27.50	27.50	27.50	27.50	27.50	27.50	27.50
Light Trucks	19.50	20.00	20.50	20.50	20.50	20.50	20.50	20.50
Fleet-Average Fuel Efficiency (MPG)	17.09	18.66	19.94	21.10	21.62	21.76	21.71	21.56
Passenger Cars	18.03	20.05	21.91	23.53	24.23	24.45	24.44	24.28
Light Trucks	14.43	15.64	16.44	17.37	17.93	18.15	18.25	18.27
Gasoline Demand (In millions of barrels per day)[a]	6.67	7.10	7.25	7.57	7.92	8.26	8.75	9.12
Passenger Cars	3.63	3.74	3.76	3.89	4.05	4.23	4.49	4.67
Light Trucks	2.27	2.40	2.51	2.63	2.74	2.85	3.00	3.10
OPTION 1 (37 MPG by 2006)								
Motor Gasoline Price (In 1990 dollars per gallon)	1.07	1.16	1.19	1.27	1.43	1.49	1.63	1.79
Car/Light Truck Miles Traveled (Millions)	1506	1723	1896	2110	2298	2444	2600	2691
New-Vehicle CAFE (MPG)								
Passenger Cars	27.50	27.50	30.20	34.00	37.00	37.00	37.00	37.00
Light Trucks	19.50	20.00	22.00	24.00	26.60	26.60	26.60	26.60
Fleet-Average Fuel Efficiency (MPG)	17.09	18.66	19.94	21.25	22.59	23.23	23.47	23.30
Passenger Cars	18.03	20.05	21.91	23.78	25.63	26.45	26.80	26.64
Light Trucks	14.43	15.64	16.44	17.38	18.42	19.03	19.37	19.38
Gasoline Demand (In millions of barrels per day)[a]	6.67	7.10	7.25	7.54	7.74	7.98	8.41	8.77
Passenger Cars	3.63	3.74	3.76	3.86	3.90	4.02	4.22	4.39
Light Trucks	2.27	2.40	2.51	2.64	2.71	2.79	2.92	3.02

(continued)

TABLE A-2. LOW-CAFE IMPACT SCENARIO (continued)

	1985	1990	1996	2001	2006	2010	2015	2020
OPTION 2 (38.4 MPG by 2006)								
Motor Gasoline Price (In 1990 dollars per gallon)	1.07	1.16	1.19	1.27	1.43	1.49	1.63	1.79
Car/Light Truck Miles Traveled (Millions)	1506	1723	1896	2110	2301	2453	2615	2709
New-Vehicle CAFE (MPG)								
Passenger Cars	27.50	27.50	30.20	34.00	38.40	38.40	38.40	38.40
Light Trucks	19.50	20.00	22.00	24.00	26.60	26.60	26.60	26.60
Fleet-Average Fuel Efficiency (MPG)	17.09	18.66	19.94	21.25	22.66	23.46	23.81	23.69
Passenger Cars	18.03	20.05	21.91	23.78	25.76	26.91	27.51	27.49
Light Trucks	14.43	15.64	16.44	17.38	18.42	19.03	19.37	19.38
Gasoline Demand (In millions of barrels per day)[a]	6.67	7.10	7.25	7.54	7.72	7.94	8.35	8.70
Passenger Cars	3.63	3.74	3.76	3.86	3.88	3.96	4.13	4.29
Light Trucks	2.27	2.40	2.51	2.64	2.72	2.80	2.94	3.04
OPTION 3 (40 MPG by 2001)								
Motor Gasoline Price (In 1990 dollars per gallon)	1.07	1.16	1.19	1.27	1.43	1.49	1.63	1.79
Car/Light Truck Miles Traveled (Millions)	1506	1723	1903	2140	2363	2524	2693	2793
New-Vehicle CAFE (MPG)								
Passenger Cars	27.50	27.50	34.00	40.00	40.00	40.00	40.00	40.00
Light Trucks	19.50	20.00	25.50	30.00	30.00	30.00	30.00	30.00
Fleet-Average Fuel Efficiency (MPG)	17.09	18.66	20.11	22.02	24.24	25.18	25.64	25.57
Passenger Cars	18.03	20.05	22.05	24.37	27.01	28.14	28.71	28.67
Light Trucks	14.43	15.64	16.66	18.35	20.26	21.16	21.68	21.78
Gasoline Demand (In millions of barrels per day)[a]	6.67	7.10	7.22	7.40	7.45	7.66	8.04	8.38
Passenger Cars	3.63	3.74	3.75	3.82	3.80	3.90	4.08	4.24
Light Trucks	2.27	2.40	2.48	2.54	2.54	2.59	2.70	2.79

SOURCE: Congressional Budget Office.

a. Total demand includes cars, light trucks, and medium and heavy trucks.

TABLE A-3. HIGH-CAFE IMPACT SCENARIO

	1985	1990	1996	2001	2006	2010	2015	2020
CURRENT CAFE STANDARDS								
Motor Gasoline Price (In 1990 dollars per gallon)	1.07	1.16	1.19	1.27	1.43	1.49	1.63	1.79
Car/Light Truck Miles Traveled (Millions)	1506	1723	1863	2036	2184	2304	2458	2569
New-Vehicle CAFE (MPG)								
Passenger Cars	27.50	27.50	27.50	27.50	27.50	27.50	27.50	27.50
Light Trucks	19.50	20.00	20.50	20.50	20.50	20.50	20.50	20.50
Fleet-Average Fuel Efficiency (MPG)	17.09	18.66	19.45	19.41	19.05	18.78	18.41	18.02
Passenger Cars	18.03	20.05	21.34	21.58	21.33	21.10	20.72	20.29
Light Trucks	14.43	15.64	16.09	16.06	15.82	15.66	15.46	15.26
Gasoline Demand (In millions of barrels per day)[a]	6.67	7.10	7.30	7.92	8.59	9.12	9.87	10.49
Passenger Cars	3.63	3.74	3.80	4.10	4.45	4.75	5.16	5.51
Light Trucks	2.27	2.40	2.52	2.76	3.00	3.20	3.46	3.66
OPTION 1 (37 MPG by 2006)								
Motor Gasoline Price (In 1990 dollars per gallon)	1.07	1.16	1.19	1.27	1.43	1.49	1.63	1.79
Car/Light Truck Miles Traveled (Millions)	1506	1723	1864	2045	2211	2346	2515	2634
New-Vehicle CAFE (MPG)								
Passenger Cars	27.50	27.50	30.20	34.00	37.00	37.00	37.00	37.00
Light Trucks	19.50	20.00	22.00	24.00	26.60	26.60	26.60	26.60
Fleet-Average Fuel Efficiency (MPG)	17.09	18.66	19.55	20.32	21.53	22.52	23.09	23.10
Passenger Cars	18.03	20.05	21.45	22.68	24.38	25.64	26.35	26.40
Light Trucks	14.43	15.64	16.16	16.70	17.61	18.46	19.06	19.23
Gasoline Demand (In millions of barrels per day)[a]	6.67	7.10	7.28	7.64	7.80	7.90	8.29	8.68
Passenger Cars	3.63	3.74	3.78	3.92	3.94	3.98	4.15	4.34
Light Trucks	2.27	2.40	2.51	2.66	2.73	2.76	2.87	2.98

(continued)

TABLE A-3. HIGH-CAFE IMPACT SCENARIO (continued)

	1985	1990	1996	2001	2006	2010	2015	2020
OPTION 2 (38.4 MPG by 2006)								
Motor Gasoline Price (In 1990 dollars per gallon)	1.07	1.16	1.19	1.27	1.43	1.49	1.63	1.79
Car/Light Truck Miles Traveled (Millions)	1506	1723	1864	2045	2211	2348	2518	2639
New-Vehicle CAFE (MPG)								
Passenger Cars	27.50	27.50	30.20	34.00	38.40	38.40	38.40	38.40
Light Trucks	19.50	20.00	22.00	24.00	26.60	26.60	26.60	26.60
Fleet-Average Fuel Efficiency (MPG)	17.09	18.66	19.55	20.32	21.57	22.73	23.41	23.48
Passenger Cars	18.03	20.05	21.45	22.68	24.46	26.05	27.03	27.23
Light Trucks	14.43	15.64	16.16	16.70	17.61	18.46	19.06	19.23
Gasoline Demand (In millions of barrels per day)[a]	6.67	7.10	7.28	7.64	7.79	7.85	8.20	8.58
Passenger Cars	3.63	3.74	3.78	3.92	3.93	3.92	4.05	4.21
Light Trucks	2.27	2.40	2.51	2.66	2.73	2.77	2.87	2.98
OPTION 3 (40 MPG by 2001)								
Motor Gasoline Price (In 1990 dollars per gallon)	1.07	1.16	1.19	1.27	1.43	1.49	1.63	1.79
Car/Light Truck Miles Traveled (Millions)	1506	1723	1867	2059	2236	2371	2541	2661
New-Vehicle CAFE (MPG)								
Passenger Cars	27.50	27.50	34.00	40.00	40.00	40.00	40.00	40.00
Light Trucks	19.50	20.00	25.50	30.00	30.00	30.00	30.00	30.00
Fleet-Average Fuel Efficiency (MPG)	17.09	18.66	19.81	21.83	24.12	25.10	25.59	25.54
Passenger Cars	18.03	20.05	21.68	24.14	26.87	28.04	28.66	28.64
Light Trucks	14.43	15.64	16.46	18.19	20.17	21.10	21.65	21.76
Gasoline Demand (In millions of barrels per day)[a]	6.67	7.10	7.20	7.22	7.14	7.29	7.68	8.05
Passenger Cars	3.63	3.74	3.74	3.71	3.62	3.68	3.86	4.04
Light Trucks	2.27	2.40	2.47	2.46	2.41	2.44	2.55	2.66

SOURCE: Congressional Budget Office.

a. Total demand includes cars, light trucks, and medium and heavy trucks.